

## PATENT APPLICATION

### **MUSICAL SHAKER ASSEMBLY FOR MOUNTING ON A DRUM BEATER FOOT PEDAL MECHANISM**

#### DESCRIPTION

##### **5      Background of the Invention**

This invention relates to a musical shaker assembly for mounting on a drum beater foot pedal mechanism. The foot pedal mechanism is, preferably, a commercially-available on-the-market drum beater foot pedal mechanism of the type used for bass drums.

Representative bass drum foot pedal mechanisms are described in U.S. patent 4,346,638 granted to Masao Hoshino on August 31, 1982, U.S. patent 4,691,613 granted to Luke Jacobson on September 8, 1987, U.S. patent 5,427,010 granted to Yoshiki Hoshino on June 27, 1995 and U.S. patent 5,574,237 granted to Mitsuo Yanagisawa on November 12, 1996.

An advantage of foot pedal mechanisms is that it frees up the musician's hands for other musical activities. A variety of foot pedal operated musical devices have been heretofore proposed. U.S. patent 2,475,542 granted to George Boykins on July 5, 1949, U.S. patent 2,658,421 granted to Everett Clayton on November 10, 1953, and U.S. patent 2,785,596 granted to Charles Korosh on March 19, 1957 describe foot pedal mechanisms for rattling a pair of maracas. U.S. patent 3,994,197 granted to John Bills on November 30, 1976 describes a foot pedal mechanism for shaking a tambourine. U.S. patent

application publication US 2001/0047715 published for Steven Rice on December 6, 2001 describes a foot pedal operated mechanism for imparting an up and down motion to a rattling device. While these structures are interesting, they don't suggest applicant's novel solution for the case of musical shaker instruments.

## 5      **Summary of the Invention**

10      The present invention provides a musical shaker assembly for mounting on a drum beater foot pedal mechanism. The shaker assembly includes a container having located therein a plurality of hard pellets which are free to move about within the container. The shaker assembly further includes an elongated shaft having a first end portion attached to the container with the remainder of the shaft extending outward from the container. The outward end portion of the shaft is shaped to fit into a stem holder of a drum beater foot pedal mechanism.

15      For a better understanding of the present invention, together with other and further advantages and features thereof, reference is made to the following description taken in connection with the accompanying drawings, the scope of the invention being pointed out in the appended claims.

## **Brief Description of the Drawings**

Referring to the drawings:

20      FIG. 1 is a side elevational view of a musical shaker assembly mounted on a drum beater foot pedal mechanism, the musical shaker assembly being constructed in

accordance with the present invention;

FIG. 2 is an enlarged front elevational view of the shaker assembly of FIG. 1; and

FIG. 3 is an enlarged cross-sectional view taken along section line 3-3 of FIG. 2.

### **Detailed Description of the Illustrated Embodiment**

5 Referring to the FIG. 1 of the drawings, there is shown a musical shaker assembly  
10 mounted on a drum beater foot pedal mechanism 20. The shaker assembly 10 includes  
a closed container 12 having located therein a plurality of loose hard pellets which are  
free to move about within the container 12. As shown in the cross-sectional view of  
FIG. 3, these hard pellets are identified by reference numeral 14. There are many of these  
10 pellets 14 and they may take the form of, for example, metal fragments, metal BB's,  
pieces of metal buckshot, sand, plant seeds, uncooked rice grains, rock fragments or rock  
pebbles. In some cases, the hard pellets 14 may be a mixture of two or more different  
kinds of pellets. For example, pellets 14 may be a mixture of at least two items from a  
group consisting of metal fragments, metal BB's, metal buckshot, sand, plant seeds,  
15 uncooked rice grains, rock fragments, and rock pebbles.

Container 12 may be, for example, a metal container or a hard plastic container or  
a hard wood container or a hard woven enclosed container. In the illustrated  
embodiment, container 12 is a closed metal can of elongated cylindrical shape. The  
shape, however, need not be cylindrical. Container 12 could be, for example, more of a  
20 football shape. The primary factor is that container 12 be of a size and shape which can

conveniently be held in the hand of a musician for purposes of shaking same. A cylindrical metal can provides a structure which serves the purpose and is relatively inexpensive to fabricate.

The shaker assembly 10 further includes an elongated shaft 16 having a first end portion 16a attached to the container 12 with the remainder 16b of the shaft 16 extending outward from the container 12. The outward end portion 16c of shaft 16 is shaped to fit into a stem holder 22 of the drum beater foot pedal mechanism 20. More particularly, stem holder 22 has an internal passageway or borehole 23 which extends downward into the stem holder 22 for receiving and holding the shaft or stem of a drum beater.

Typically, this internal passageway 23 will have a circular cross-section, in which case the end portion 16c of shaft 16 will be of cylindrical shape.

In the illustrated embodiment, the elongated shaft 16 is a cylindrical metal rod. It may be attached to the container 12, for example, by force-fitting the shaft 16 through the body of the container 12 in a central location on the container 12. This may be accomplished, for example, by forming holes in opposing curved sides of the container 12 in a central location on the container 12 and forcing shaft 16 through these holes so that the first end 16a of shaft 16 protrudes from one of these holes and the remainder 16b of shaft 16 extends outward from the other of these holes.

If desired, means may be provided for securing the container 12 in place on the shaft 16. This means for securing may include, for example, at least one raised shoulder

portion 17 formed on the shaft 16 at the exit location of the remainder 16b of the shaft 16 from the container 12. This means for securing may further include, for example, a nut member 18 threaded onto the protruding first end 16a of the shaft 16. Tightening of nut member 18 pulls shaft 16 upward and causes the raised shoulder portions 17 to firmly engage the lower side of container 12. This locks container 12 firmly in place on shaft 16.

The foot pedal mechanism 20 depicted in FIG. 1 represents a commercially-available on-the-market drum beater foot pedal mechanism of the type used for beating bass drums. It includes a frame structure 24 having two vertically-extending support posts 25 individually located on opposite sides of a foot pedal 26. Only the nearer support post 25 is visible in FIG. 1, the other support post being located directly in line with it on the far side of foot pedal 26. Each vertical support post 25 has an enlarged head portion 27. A horizontal crossbar (not visible) is rotatably supported within these enlarged head portions 27. The stem holder 22 is mounted on this crossbar approximately midway between the two sides of foot pedal 26. A cam member 28 is affixed to the far side of stem holder 22. A pull chain 29 is mounted on cam member 28 and extends downward and is attached to the upper end of foot pedal 26. A crank arm 30 is attached to the end of the horizontal crossbar outward of the vertical support post 25. A return spring 31 is connected between the free end of crank arm 30 and a connector stub 32 on the side of vertical support post 25. The lower end of foot pedal 26 is hinged to a heel plate 33.

Depressing the foot pedal 26 pulls the pull chain 29 downward and causes a clockwise rotation of the horizontal crossbar on which is mounted the stem holder 22.

This rotates stem holder 22 in a clockwise direction and moves the shaker container 12 to the right. This also rotates the lower end of crank arm 30 to the left to stretch out the return spring 31. Releasing or letting up on foot pedal 26 enables return spring 31 to pull the crank arm 30 back to its original position. This rotates the horizontal crossbar and attached stem holder 22 back to the original position shown in FIG. 1. This moves shaker container 12 to the left and back to its original position.

Successive depressing and letting up on foot pedal 26 causes a back and forth movement of the shaker container 12. This causes pellets 14 to move back and forth inside container 12 and successively strike opposing inner walls of container 12. This produces the desired rattling sound. The tone of this sound is determined by the material from which container 12 is made and by the particular material used for pellets 14.

An important advantage of the present invention is that it uses a commercially-available on-the-market foot pedal mechanism. No special or unique structure is needed. Also, the elongated shaft 16 may be the same metal shaft or drum head rod that is used for existing bass drum beaters. Thus, a foot-operated musical shaker can be provided with a minimum of effort and expense.

While there have been described what are at present considered to be preferred embodiments of this invention, it will be obvious to those skilled in the art that various

changes and modifications may be made therein without departing from the invention and it is, therefore, intended to cover all such changes and modifications as come within the true spirit and scope of the invention.